

Figure 1  
(Prior Art)

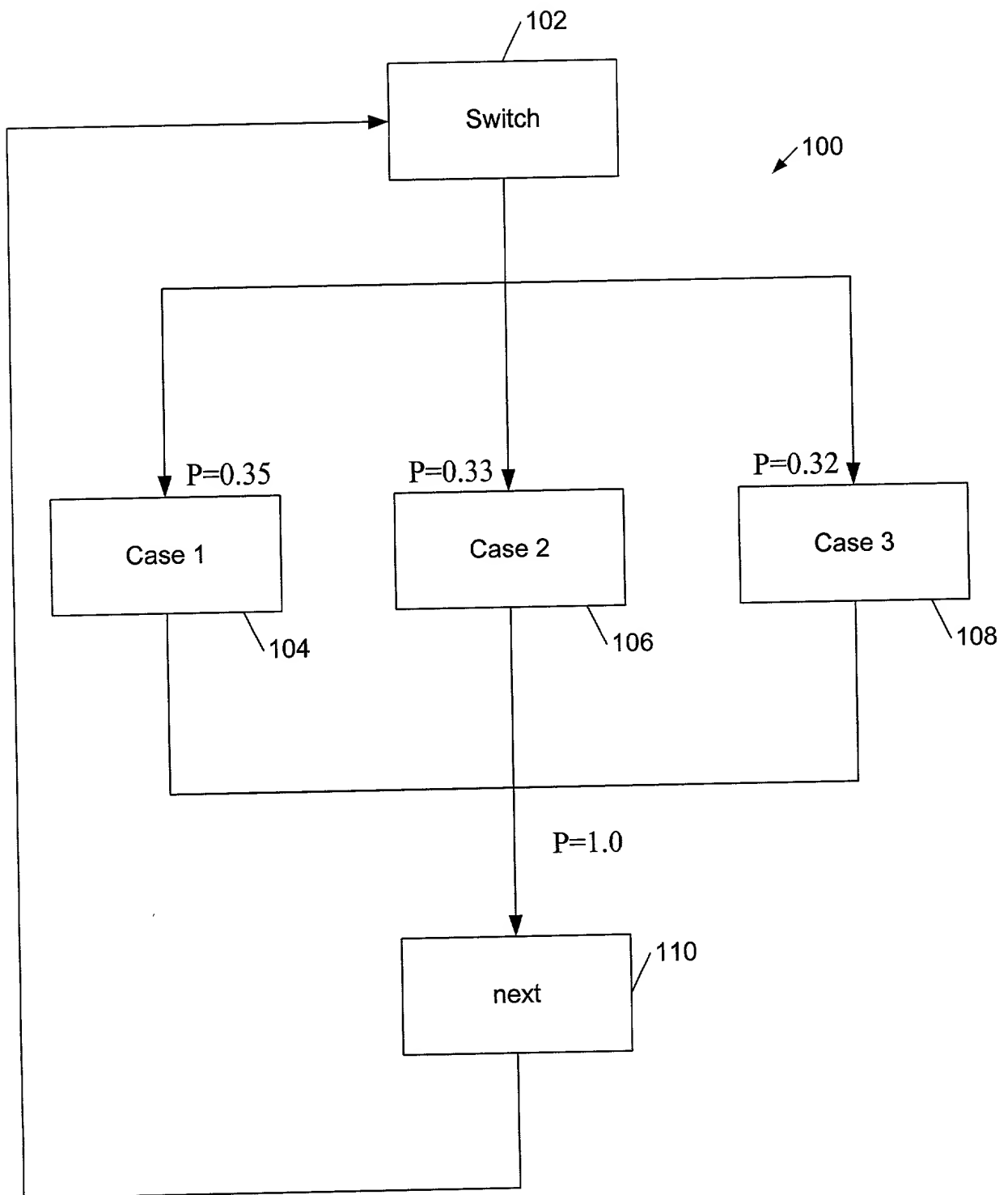


Figure 2  
(Prior Art)

```
ld [case], r1 /* next processing */  
.switch:  
cmp r1, 1  
be .case1 P dynamic =0.65  
nop  
cmp r1,2  
be .case2 P dynamic =0.51  
nop  
cmp r1,3  
be .case3 P dynamic =1.00  
nop  
ba .defaultcase
```

Figure 3  
(Prior Art)

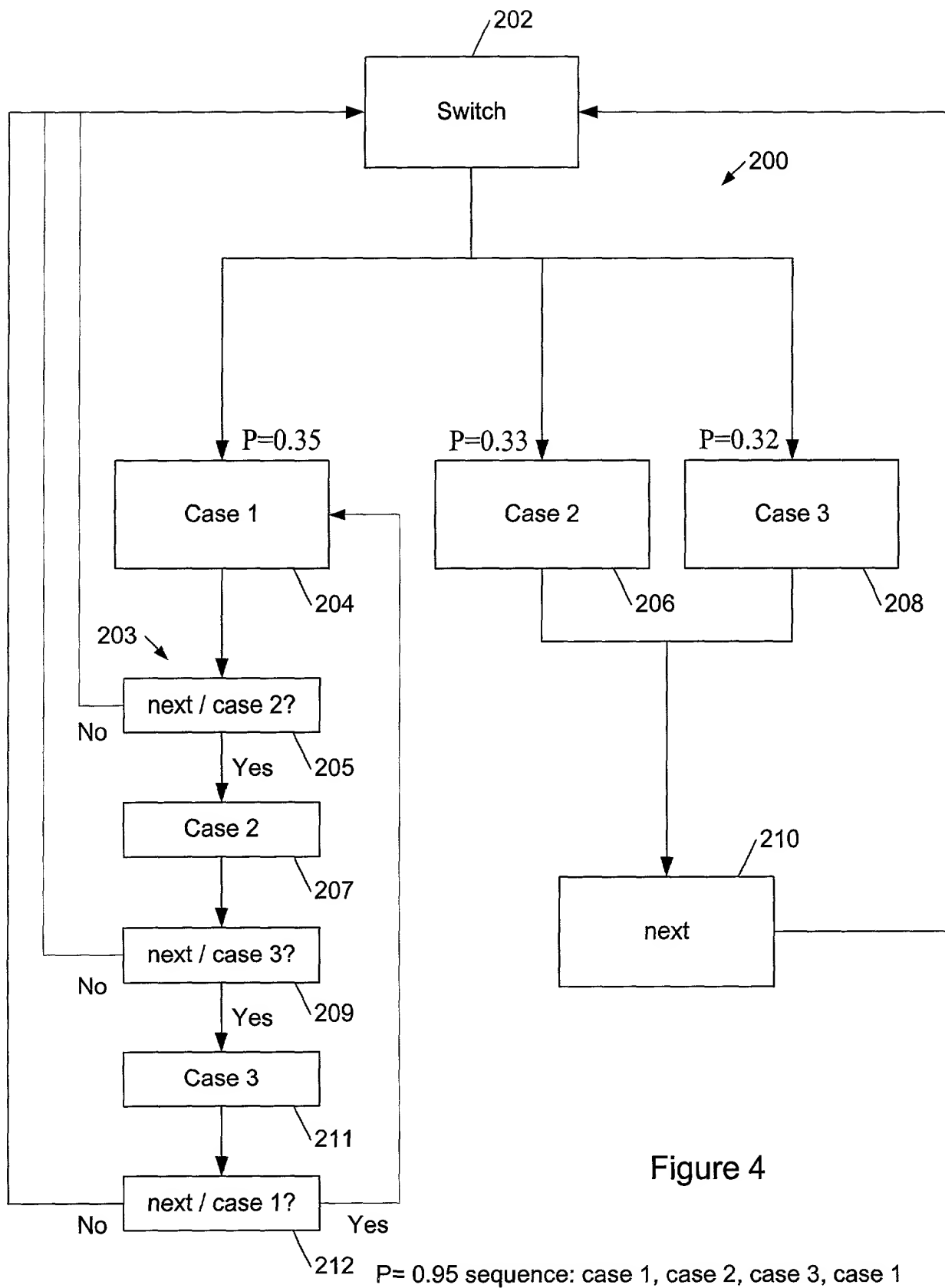


Figure 4

## Transformed Code

212

```
.case1:
/* case 1 code */
ld [case], r1 /* expanded next */
cmp r1, 2 /* case 2 test */
bne .switch P dynamic =0.95
Nop
/* case 2 code */
ld [case], r1 /* expanded next */
cmp r1, 3
bne .switch P dynamic =0.95
Nop
/* case 3 code */
ld [case], r1 /* expanded next*/
cmp r1, 1
be .case1 P dynamic =0.95
Nop
ba .switch
```

Branches executed  
most often are  
accurately predicted

Figure 5

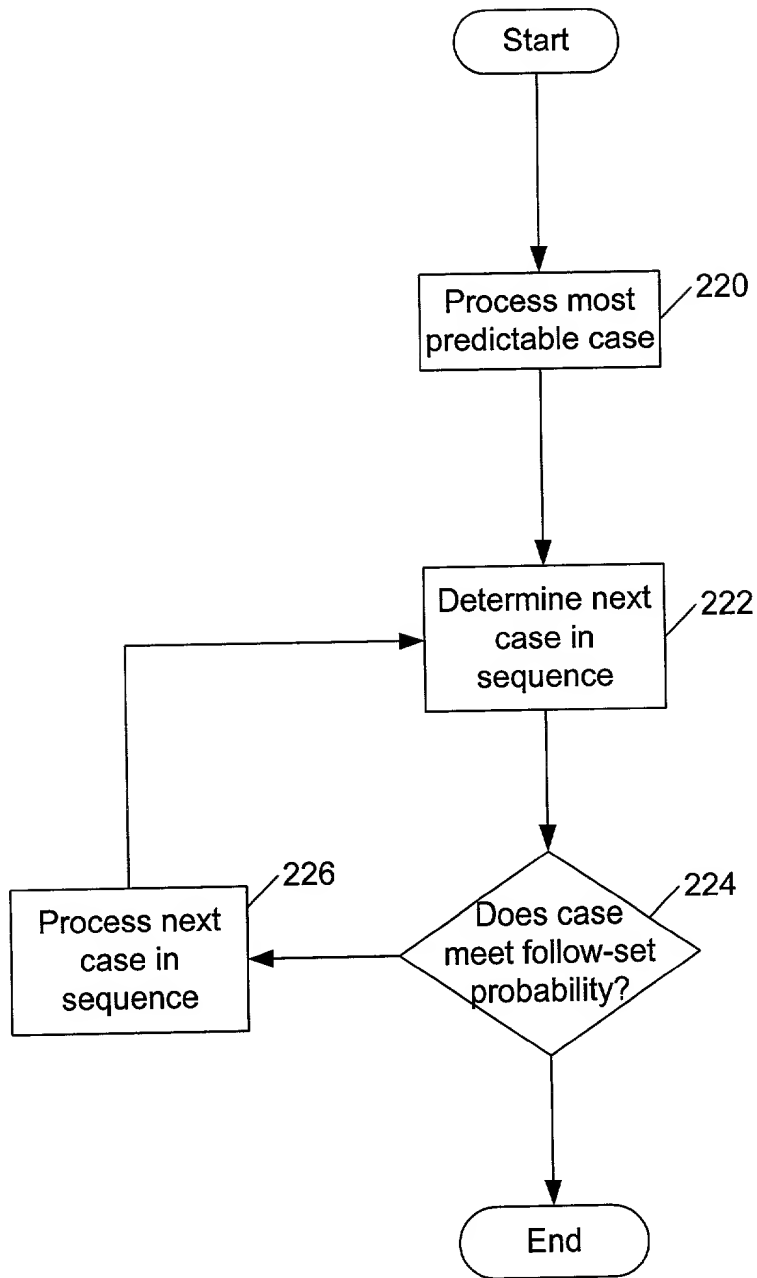


Figure 6

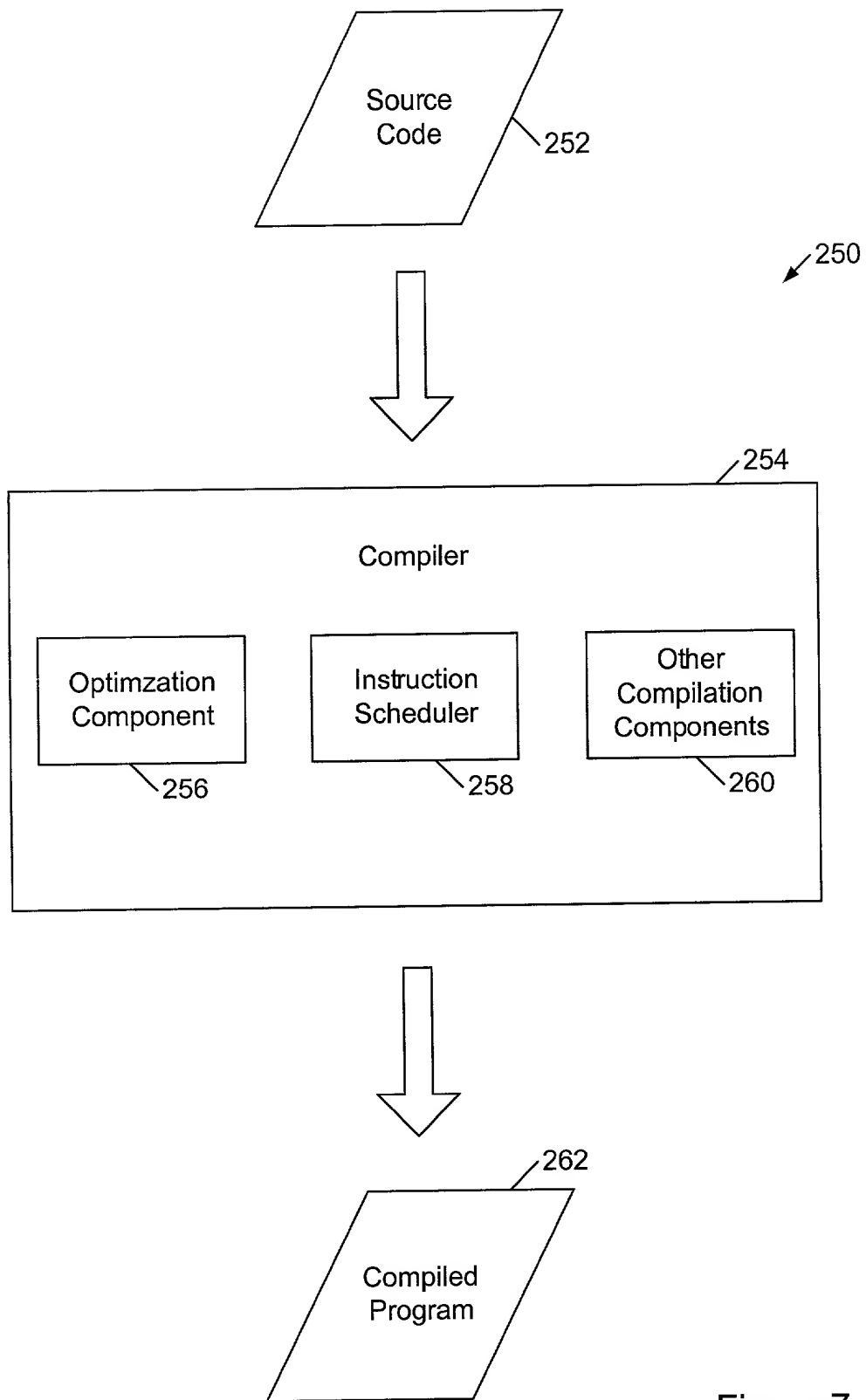


Figure 7

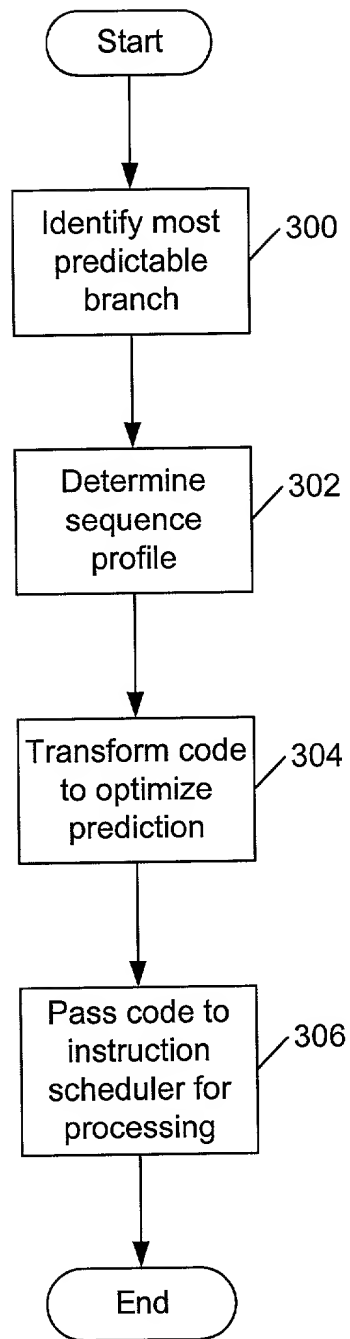


Figure 8